

IN THE CLAIMS:

Please amend the claims as follows:

Claim 1 (Currently Amended): A spherical aberration correcting unit for correcting an aberration caused in an optical beam radiated toward an object to be detected and focused on the object, the unit comprising:

an aberration corrector composed of a plurality of optical members and configured to form the optical beam into a parallel pencil and to correct the aberration caused in the optical beam, the optical members including at least a converging lens and a diverging lens respectively;

a driver configured to drive only one of the converging lens and the diverging lens in an optical axis direction of the optical beam;

a light receiver configured to receive light reflected from the object to produce a light-reception signal from the received light; and

a controller configured to control the driver based on the produced light-reception signal,
wherein a relationship of $0.2 < |f_1/f| < 0.82$ is established, wherein a composite focal length of the converging lens and the diverging lens of the aberration corrector is f and a focal length of thus driven one of the converging lens and the diverging lens is f_1 .

Claim 2 (Original): The spherical aberration correcting unit according to claim 1, wherein the object is an optical information recording medium.

Claim 3 (Canceled).

Claim 4 (Original): The spherical aberration correcting unit according to claim 1, wherein the aberration corrector is a collimator lens.

Claim 5 (Original): The spherical aberration correcting unit according to claim 2, wherein the any one of the optical members is composed of a plurality of lenses.

Claim 6 (Previously Presented): The spherical aberration correcting unit according to claim 2, wherein at least one of the converging lens and the diverging lens has an aspheric surface.

Claim 7 (Previously Presented): The spherical aberration correcting unit according to claim 2, wherein a hologram is attached to at least one of the converging lens and the diverging lens.

Claim 8 (Currently Amended): An optical pickup for reading and writing information from and to an optical information medium by radiating an optical beam toward the optical information medium, the optical beam being focused on the optical information medium, the optical pickup comprising:

a spherical aberration correcting unit for correcting an aberration caused in the optical beam,

wherein the unit comprises:

an aberration corrector composed of a plurality of optical members and configured to form the optical beam into a parallel pencil and to correct the aberration caused in the optical beam, the optical members including at least a converging lens and a diverging lens respectively;

a driver configured to drive only one of the converging lens and the diverging lens in an optical axis direction of the optical beam;

a light receiver configured to receive light reflected from the medium to produce a light-reception signal from the received light; and

a controller configured to control the driver based on the produced light-reception signal,

wherein a relationship of $0.2 < |f_1/f| < 0.82$ is established, wherein a composite focal length of the converging lens and the diverging lens of the aberration corrector is f and a focal length of thus driven one of the converging lens and the diverging lens is f_1 .

Claim 9 (Original): The optical pickup according to claim 8, wherein the object is an optical information recording medium.

Claim 10 (Canceled).

Claim 11 (Original): The optical pickup according to claim 8, wherein the aberration corrector is a collimator lens.

Claim 12 (Currently Amended): A spherical aberration correcting method for correcting an aberration caused in an optical beam radiated toward an object to be detected and focused on the object, the method comprising the steps of:

forming the optical beam into a parallel pencil using a plurality of optical members, including at least a converging lens and a diverging lens respectively, while correcting the aberration caused in the optical beam;

driving only one of the converging lens and the diverging lens in an optical axis direction of the optical beam;

receiving light reflected from the object to produce a light-reception signal from the received light; and

controlling the driver based on the produced light-reception signal,

wherein a relationship of $0.2 < |f_1/f| < 0.82$ is established, wherein a composite focal length of the converging lens and the diverging lens of the aberration corrector is f and a focal length of thus driven one of the converging lens and the diverging lens is f_1 .